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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,315	07/14/2003	Moshe Rosenberg	309J-000310US	7949

22798 7590 10/28/2008

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EXAMINER	
MERCIER, MELISSA S	
ART UNIT	PAPER NUMBER
1615	
MAIL DATE	DELIVERY MODE
10/28/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/620,315	ROSENBERG ET AL.	
	Examiner	Art Unit	
	MELISSA S. MERCIER	1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15,20-23,25 and 26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15,20-23,25 and 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2-19-08, 9-8-08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Summary

Receipt of Applicants Remarks and Amended Claims filed on May 12, 2008 and again on July 7, 2008 is acknowledged. Claims 1-15 and 20-26 remain pending in this Application. It is noted in the reply filed on July 7, 2008 that if a Notice of Allowance was not issued, Applicant requests an interview. After considering this office action, if Applicant would still like an interview, Applicant is requested to contact the Examiner by telephone in order to schedule an interview.

Information Disclosure Statement

Receipt of the Information Disclosure Statements filed on February 19, 2008 and September 8, 2008 is acknowledged. Signed copies are included in this correspondence.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 8, 13-14, 21-23, and 25-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Structure of an Egg (Incubation and Embryology-University of Illinois), as evidenced by Denaturation (Wikipedia).

The instant claims are drawn to a gel formed of oil in water emulsion. The claims recite the protein is "cross linked". Divalent linkers, formaldehyde, gluteraldehyde, and other aldehydes have been excluded as cross linking agents. The gelled emulsion further comprises supplemental constituents, including vitamins, nutrients, proteins, amino acids, polyunsaturated lipids, minerals, bioactive materials, and pharmaceuticals.

It is submitted that a hard boiled egg would meet the limitations of the instant claims. An egg comprises 74% water, 13% protein, and 11% fat. The egg white, which would constitute the continuous phase, comprises 88% water with 11% protein contained within. The yolk would constitute the lipid phase. Eggs are known to include numerous vitamins, including vitamins A, D, E, B12, and B6, as well as folate, thiamine, riboflavin, phosphorous, zinc, iron, choline, lutein and zeaxanthin. The vitamins would constitute the supplemental constituents as claimed in the instant claims. According to the article, protein is found in both the continuous and lipid phase. When an egg is boiled, the proteins denature and form hydrophobic bonds resulting in a solid mass, as evidenced by the protein denaturation article included in this action entitled Denaturation.

Regarding claims 13-14, egg yolks are well known emulsifying agents and the egg components themselves are a hydrocolloid.

Regarding claim 26, while an egg is low in calcium, calcium is still present thereby meeting the limitation of the claim.

Claims 1-2, 4-8, 14-15, 20-23, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Krochta et al. (US Patent 5,543,164).

Krochta discloses water-insoluble protein based edible coating and films having improved barrier and mechanical strengths and methods for their preparation from water-soluble proteins. Aqueous protein solutions are denatured with heat, chemicals and/or enzymes to induce thiol-disulfide interchange and thiol oxidation reactions, thereby forming new intermolecular and intramolecular disulfide cross linkages. The formation of covalent intermolecular cross linkage in protein-based edible films and coatings results in films having improved barrier and mechanical properties which are insoluble in water. Water-insoluble emulsion film systems can be formed by incorporating lipids into the denatured aqueous protein matrix (abstract).

Regarding claims 2 and 4, Krochta discloses oil in water emulsion comprising proteins in the water phase, therefore, the proteins read on Applicants definition of supplemental constituents.

Regarding claims 5-7, the emulsion has particle sizes ranging from 0.05-4.0 microns (column 6, lines 37-40)

Regarding claim 8, "lipid component" refers to all oils, waxes, fatty acids, fatty alcohols, monoglycerides and triglycerides having long carbon chains of from 10 to 20 or more carbon atoms, which are either saturated or unsaturated. Examples of "lipid components" are beeswax, paraffin, carnauba wax, stearic acid, palmitic acid and hexadecanol (column 4, lines 6-11). The lipid component can be present in the amount of 1-30% by weight in solution (column 6, lines 18-20).

Regarding claim 15, the proteins are milk proteins, a whey protein, caseins, a wheat protein, a soy protein, an egg protein, a peanut protein, corn zein, and keratin (column 7, lines 1-3).

Regarding claim 20 and 21, it is disclosed "disulfide formation" refers to the formation of new --S--S-- bonds which can occur either intermolecular or intramolecularly. These bonds can be formed in the proteins used in preparation of the films and coatings by several routes. Disulfide formation can take place via thiol oxidation reactions wherein the free sulfhydryl groups of cysteine residues become oxidized and form disulfide bonds. Additionally, thiol-disulfide exchange reactions can take place wherein existing intramolecular disulfide bonds are broken by heat, chemical or enzymic means and allowed to form new disulfide bonds which are a mixture of the intermolecular and intramolecular variety (column 3, line 60 through column 4, line 5).

Regarding claims 22-23, protein is present in the amount of 5-20% by weight in solution (column 6, lines 60-63).

Regarding claim 25, the aqueous phase, as discussed in column 7, lines 32-58, comprises only protein; therefore, since protein is disclosed as being present in the amount of 5-20%, the water would be present in the amount of 80-95%.

Since the prior art discloses the same composition, it would also meet the functional properties of “whereby supplemental constituents or lipid droplets, suitable for ruminant ingestions, are protected against degradation, modification, or removal from the gel during passage through a rumen.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 3, 9-10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krochta et al. (US Patent 5,543,164) in view of Cook et al. (US Patent 5,428,072).

The teachings of Krochta are discussed above and applied in the same manner.

Krochta does not disclose the use of conjugated linoleic acid.

Cook discloses a method of enhancing weight gain and feed efficiency in an animal by administering to the animal a safe and effective amount of conjugated linoleic acid (abstract). It is known that linoleic acid is found in seed oils.

It would have been obvious to a person of ordinary skill in the art to incorporate the teachings of Cook with the composition of Kyogoku since Cook discloses that its desirable to enhance the efficiency of feed conversion and enhance body weight in an

animal since conjugated linoleic acids are natural food ingredients and relatively non-toxic (column 1, lines 55-68).

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krochta et al. (US Patent 5,543,164) in view of Scott et al. (US Patent 3,925,560).

The teachings of Krochta are discussed above and applied in the same manner.

Krochta does not disclose the specific use of corn oil, poppy seed oil, fish oil, cotton seed oil, soybean oil, walnut oil, safflower oil, sunflower oil, sesame oil, canola oil, or linseed oil.

Scott discloses a method of improving utilization of lipid materials by ruminants comprising feeding them an emulsion product comprising lipids dispersed in a medium (abstract). Scott additionally discloses if it is desired to increase the proportion of polyunsaturated fatty acids in the animal's body and/or milk fats, unsaturated vegetable or animal fats or oils should be employed. Vegetable oils derived from for example, Soya beans, peanuts, sunflowers, safflowers, cotton seeds, maize, rape, etc., or animal fats or oils derived from non-ruminants such as fish, fowls, and pigs may be used. If it is desired to administer hormones, vitamins, or other medicaments and modifying agents, these should be in lipid-soluble form and incorporated into the lipid component of the feed supplement, though this component need not be unsaturated for the purpose (column 2, lines 4-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the lipids disclosed by Scott in order to

increase the proportion of polyunsaturated fatty acids in an animals body and or milk fats since there is an need for products having a fat components with a high ratio of polyunsaturated fatty acids to saturated fatty acid (column 1, lines 38-57).

Claim 13 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krochta et al. (US Patent 5,543,164) in view of Schroeder et al. (US Patent 4,160,041).

The teachings of Krochta are discussed above and applied in the same manner.

Krochta does not disclose the use of an emulsifier or calcium, magnesium, sodium, or phosphate in the aqueous phase.

Schroeder discloses a method of preparing animal feed comprising the addition of a soluble phosphate to cause solidification of a mixture (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the emulsifying agents, including phosphate into the composition of Krochta in order to solidify the composition to arrive at a desired consistency which would be acceptable for feeding to an animal.

Response to Arguments

Applicant's arguments, see Applicants Remarks, filed May 12, 2008 and again on July 7, 2008, with respect to the rejection(s) under 35 USC 102(b) and 35 USC 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made

in view of Krochta. The amendments to the claims filed by Applicant have gotten over the previous rejections of record.

Conclusion

Due to the new grounds of rejection presented in this office action, this action is made Non-Final. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MELISSA S. MERCIER whose telephone number is (571)272-9039. The examiner can normally be reached on 8:00am-4:30pm Mon through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward can be reached on (571) 272-8373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Melissa S Mercier/
Examiner, Art Unit 1615

/MP WOODWARD/
Supervisory Patent Examiner, Art Unit 1615